



# Buzzards Bay – B120 Oil Release

June 2, 2005

# Presenters

- Richard J. Wozmak, P.E., P.H., L.S.P.
  - LSP-of-Record
- NRDA Trustee
  
- Other Participants
  - Richard Packard
    - MADEP
  - Mike Hickey
    - MADMF

# Introduction

- Over two years since oil spill
- Initial cleanup removed majority of oil
- Immediate Response Actions (IRA) ongoing to address isolated areas with limited oiling
- 57 of 120 segments were completed (Partial RAO) last summer
- Tier IA Permit was issued by MADEP last summer
- Remaining 63 segments are being addressed this year under MCP Phase II Comprehensive Response Actions
- Conceptual Site Model and Phase II Scope of Work in progress

# Cleanup Progress

- Immediate Response Action
  - Respond to citizen reports of oil
  - Inspections for potential residual oil impacts
  - Additional cleanup (where feasible)

# Citizen Reports

- No calls since the last public meeting in September 2004

# Inspections for Potential Residual Oil Impacts

- Inspections at 5 segments with potential for residual oil
- LSP reconnaissances at approximately 20 segments that previously contained residual oil or contained sensitive habitat

# Additional IRA Cleanup

- Cleanup at Strawberry Point in Winter 2004 and Spring 2005





# Additional IRA Cleanup

- Cleanup at Strawberry Point in Winter 2004 and Spring 2005





# Leisure Shores/Howard's Beach



IRA Modification Activities

# Leisure Shores/Howard's Beach



IRA Modification Activities

# Leisure Shores/Howard's Beach

- Post-cleanup intertidal sediment samples collected in December 2004
  - Petroleum concentrations below federal ecological screening thresholds and MCP Method 1 health-based risk thresholds
- Post-cleanup visual inspections in May 2005
  - Residual oil (sporadic flecks), less than 1cm diameter, encountered in a small (approximately 10' x 10'), localized area in lower intertidal zone



# Upcoming IRA Activities

- Removal of small area (7 feet by 10 feet) of oil-impacted shallow sediment at the west side of West Island in Fairhaven

# Upcoming IRA Activities

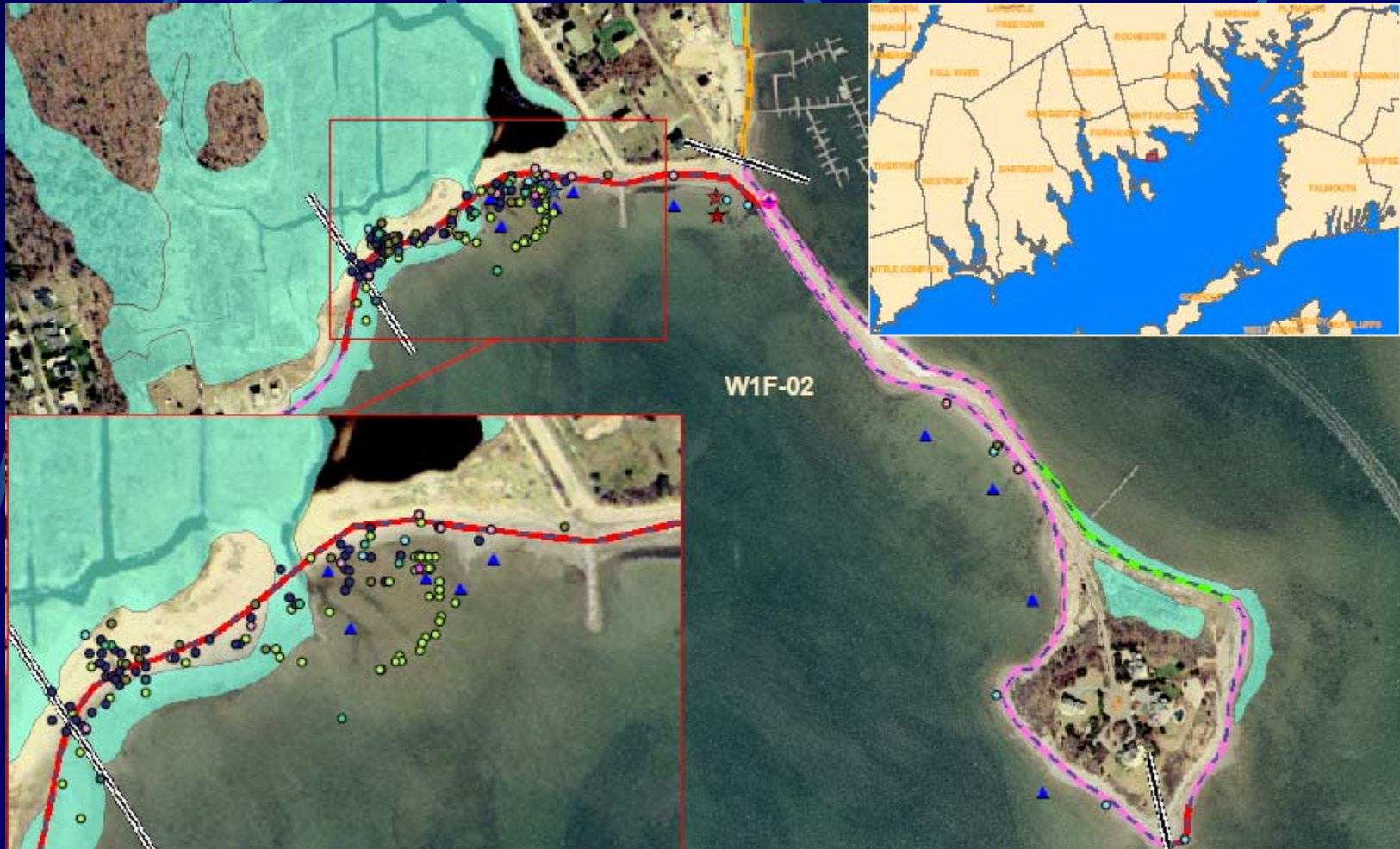


# Upcoming IRA Activities

- We are currently evaluating the benefit of additional response actions at Leisure Shores/Howard's Beach
  - Feasibility
  - Timing
  - Potential adverse ecological impacts



# Upcoming IRA Activities





# Upcoming IRA Activities

- Will respond to citizen reports of oil
- Contact GeoInsight at 978-692-1114

# IRA Status Reports

- March 2005 IRA Status Report
  - July 23 to December 31, 2004
  - Posted on [buzzardsbay.org](http://buzzardsbay.org) website
- Next IRA Status Report August 2005
  - January to June 2005
  - Will be posted on [buzzardsbay.org](http://buzzardsbay.org)

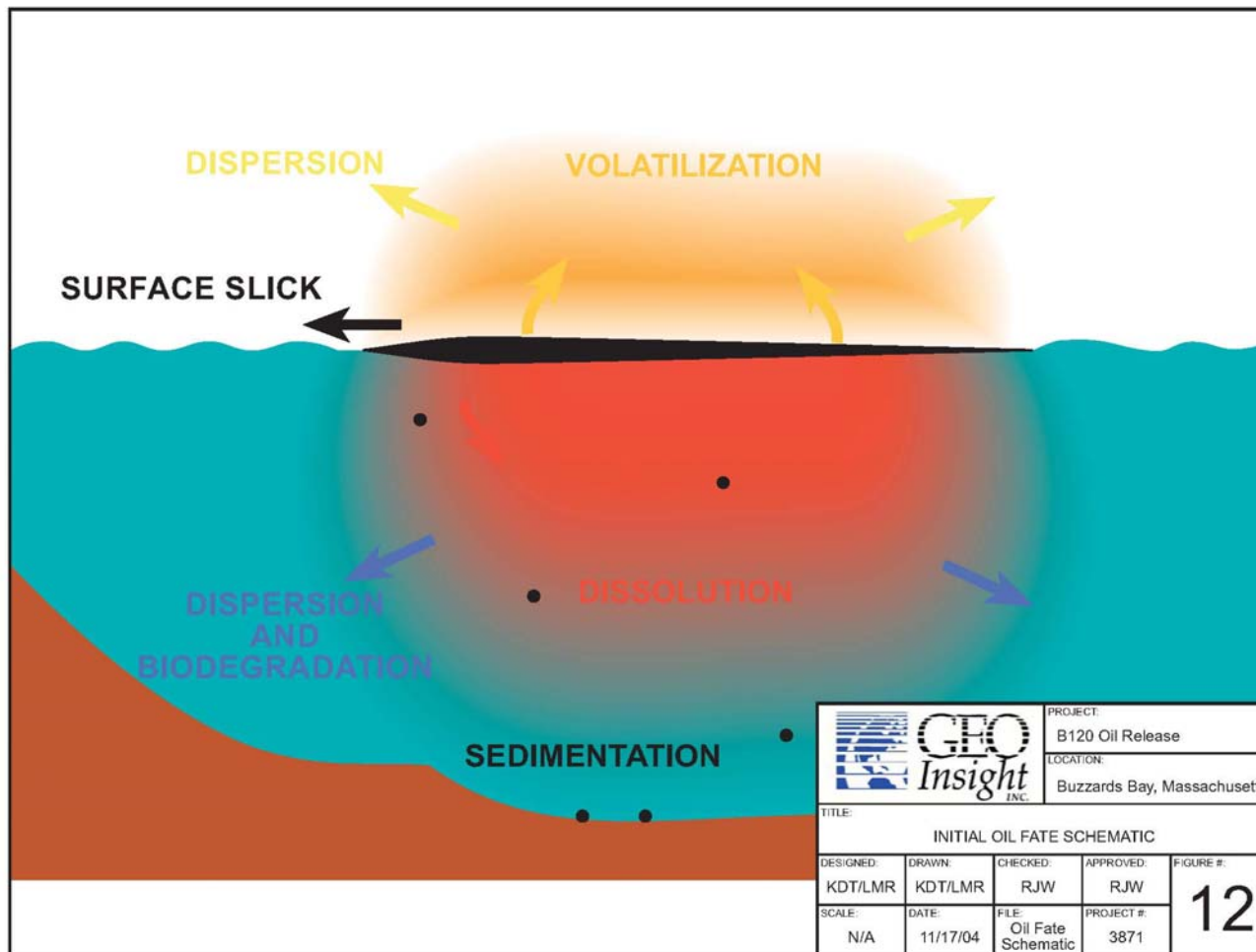
# Conceptual Site Model

- Expected and actual fate and transport of released oil
- Areas where residual oil could potentially be located
- Potential exposure pathways and receptors
- Used as a basis to develop additional data collection under Phase II

# CSM Based On:

- Physical properties of oil
- Release characteristics
- Properties/characteristics of Buzzards Bay
- Literature-based oil fate/transport
  - Degradation
  - Persistence
- Field observations
  - Aerial overflights
  - Subtidal evaluation
  - Intertidal evaluation
- Computer modeling of release and initial fate and transport
- Cleanup Operations

# Initial Oil Fate Schematic



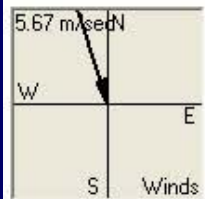
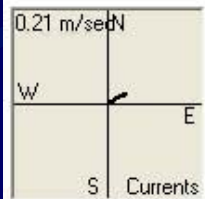
# CSM Results

Initial distribution based on modeling (1 Week)

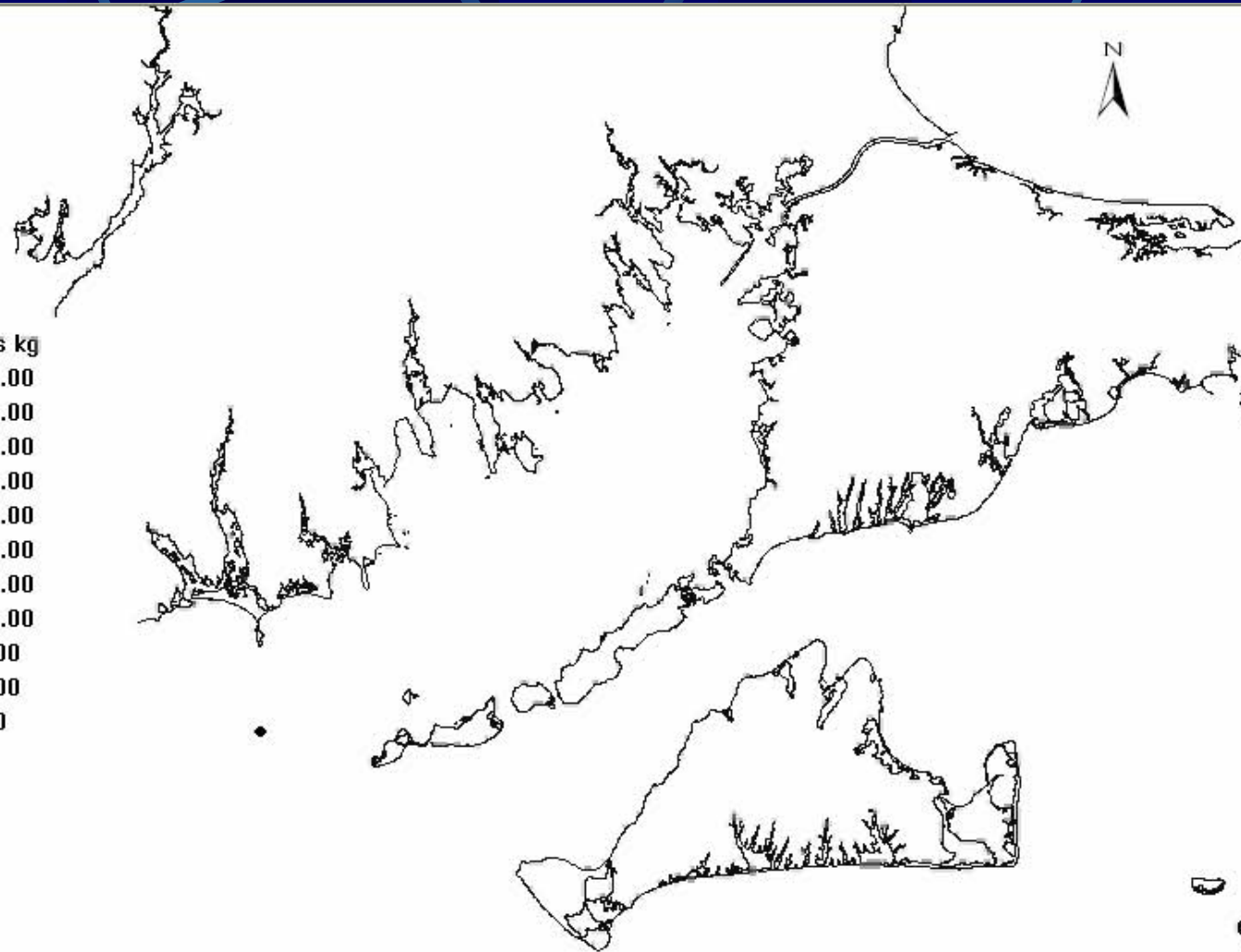
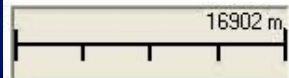
- Shoreline Stranding – 95% of spilled oil
- Most of remainder would evaporate (4%) and less than 1% would dissolve or sink

# CSM Model Results

15:30 hrs.  
04-27-03  
Run Number 1



Shore Mass kg





# CSM Results

## Current (2 years after spill)

### Sandy Beaches (Barney's Joy)



# CSM Results

Current (2 years after spill)

Mixed sand and gravel beaches

Fort Taber, New Bedford

Crescent Beach, Mattapoisett





# CSM Results Current (2 years after spill)

Seawalls, Bulkheads, Groins, and Piers  
(Salter's Point)



# CSM Results

## Current (2 years after spill)

### Salt Marshes (Strawberry Point)





# CSM Results

## Current (2 years after spill)

### Salt Marshes (Pope's Beach)



# CSM Results

## Current (2 years after spill)

- Subtidal
  - CSM results – no significant subtidal oiling initially or currently

# CSM Results

## Potential Receptors

- Humans
- Aquatic organisms (fish, mussels)
- Terrestrial organisms (plants, birds)



# CSM Report

- Use to support/direct Phase II characterization
- CSM will be included in the upcoming Phase II Scope of Work

# Phase II Work Scope

- Develops approach to evaluate risk
- Develops sufficient environmental data and information on residual oil

# Phase II Work Scope

- Characterize “worst-case” subset of segments
  - Focus on sand and gravel beaches, rocky shorelines, and marshes
- Characterize nearshore subtidal areas
  - Quiescent areas adjacent to heavily oiled segments
- Anticipated work scope completion date July 2005

# Upcoming Phase II Activities

- Site inspections and sampling in summer/fall 2005
- Phase II Report winter of 2005/2006
- For segments which meet MCP criteria
  - Partial RAO
- For any remaining segments
  - Phase III Remedial Action Plan – remediation feasibility study

# Closing

- Buzzardsbay.org website
- Next meeting will be scheduled at the completion of the Phase II report